Apo-Sironar-N

The Low-Price, High-Performance "Workhorse" for the Photographer

The Rodenstock Apo-Sironar-N is the all-around lens for the professional photographer. Product shots of all kinds, industrial, architectural or landscape photography are typical applications for this lens with standard focal length for the required formats.
With a longer focal length than "normal" for the corresponding format, the Apo-Sironar-N can also be used at the same camera location for shots which require a bigger presentation or a more moderate perspective. The larger extensions required for this purpose can be achieved with all studio cameras. This means that it is no longer necessary to rely on optically problematic tele-constructions whose short length only produce real advantages with range-finder or reflex cameras.

The Low-Price Large Format Standard Lens with Unrestricted "Apo" Quality

Despite its favorable price, the Apo-Sironar-N is fully entitled to bear the name "Apo". For its design, with 6 elements in 4 groups, shows such low chromatic aberration, thanks to its apochromatic correction with special glass combinations, that no color fringes are visible even under unfavorable conditions such as high contrast structures in the vicinity of the image circle border.
High production quality and MC coating guarantee that the unwanted stray light is kept to a minimum. As a result, the ideal detail reproduction can also develop its full effect even in shadow areas with exposure against a light source.
The Apo-Sironar-N is characterized by an angle of view of 72° at all focal lengths up to 300 mm (64° at 360 mm and 56° at 480 mm). The resulting image circle diameter exceeds the diagonal of the respective standard format by about 45%. The photographer has substantial free covering power and superb border quality for parallel shifts, swings or tilts.
The Apo-Sironar-N is equally suitable for studio work or outdoor photography. Whether for close-ups or long-distance shots, thanks to its very low sensitivity to ratio of reproduction, the Apo-Sironar-N always supplies high detail and brilliant photographs at all focusing distances.

The Excellent Correction of Distortion Means That Straight Lines Always Remain Straight

To meet the demands placed on a real all-around lens, the Apo-Sironar-N offers a number of features: Perfect sharpness, sufficient covering power, uniform illumination and especially high distortion correction. Distortion values of well below 0.5% will meet all demands.

Note: The slightly smaller full aperture of f/6.8 at a focal length of 360 mm and f/8.4 (Copal) or f/9 (Prontor prof.) at 480 mm is due to the limited free diameter of shutter size 3.



Apo-Sironar-N 300 mm f/5.6 in Prontor prof. 3 shutter

Formats, Shutters and Lens Dimensions

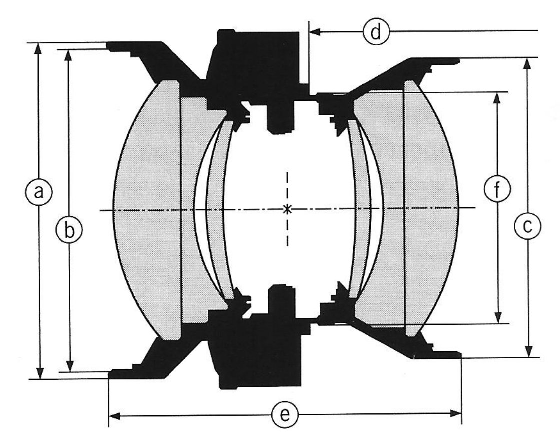
Apo-Sironar-N	Recommended maximum film format	Shutter size	Smallest aperture with shutter: Copal	Compur	Prontor prof.	Push-on mount diameter	Filter thread	Rear lens barrel diameter	Flange focal distance	Overall length	Shutter thread
						a	b	c	d	e	f
100 mm f/5.6	6×9 cm	0 01 S	45 –	45 –	– 64	42 mm	M 40.5×0.5	31.5 mm	100 mm	38 mm	M 32.5×0.5 M 39×0.75
135 mm f/5.6	9×12 cm/4×5"	0 01 S	64 –	45 –	– 64	42 mm	M 40.5×0.5	40.5 mm	130 mm	43,5 mm	M 32.5×0.5 M 39×0.75
50 mm f/5.6	9×12 cm/4×5"	0 01 S	64 –	45 –	– 64	51 mm	M 49×0.75	42 mm	142 mm	51 mm	M 32.5×0.5 M 39×0.75
180 mm f/5.6	13×18 cm/5×7"	1/1 S	64	64	64	60 mm	M 58×0.75	51 mm	173 mm	57 mm	M 39×0.75
210 mm f/5.6	13×18 cm/5×7"	1/1 S	64	64	64	70 mm	M 67×0.75	60 mm	200 mm	66 mm	M 39×0.75
240 mm f/5.6	13×18 cm/5×7"	3	64	64	64	80 mm	M 77×0.75	70 mm	231 mm	77 mm	M 62×0.75
300 mm f/5.6	18×24 cm/8×10"	3	64	64	64	90 mm	M 86×1	80 mm	282 mm	94 mm	M 62×0.75
360 mm f/6.8	18×24 cm/8×10"	3	64	64	64	110 mm	M 105×1	80 mm	333 mm	116.5 mm	M 62×0.75
480 mm f/8.4	18×24 cm/8×10"	3	90	–	–	115 mm	M 112×1.5	95 mm	452 mm	147 mm	M 62×0.75
480 mm f/9	18×24 cm/8×10"	3	–	90	90	115 mm	M 112×1.5	95 mm	452 mm	147 mm	M 62×0.75

Notes on the Recommended Working Aperture

In the following table, the range given for the recommended working aperture is that range in which the highest sharpness is achieved over the whole format with the depth of field being neglected.

The larger aperture applies to unmoved lenses, i.e. when the "format range" is used. The smaller aperture applies for camera movements where the format reaches to the image circle rim, i.e. for the "movement range". In cases of low shift, swing or tilt, a corresponding intermediate value is recommended.

Depending on the reproduction ratio and the depth of the motif, the required depth of field may make further stopping down necessary. In such cases, the sharpness may be reduced due to diffraction – particularly in the center of the image circle.

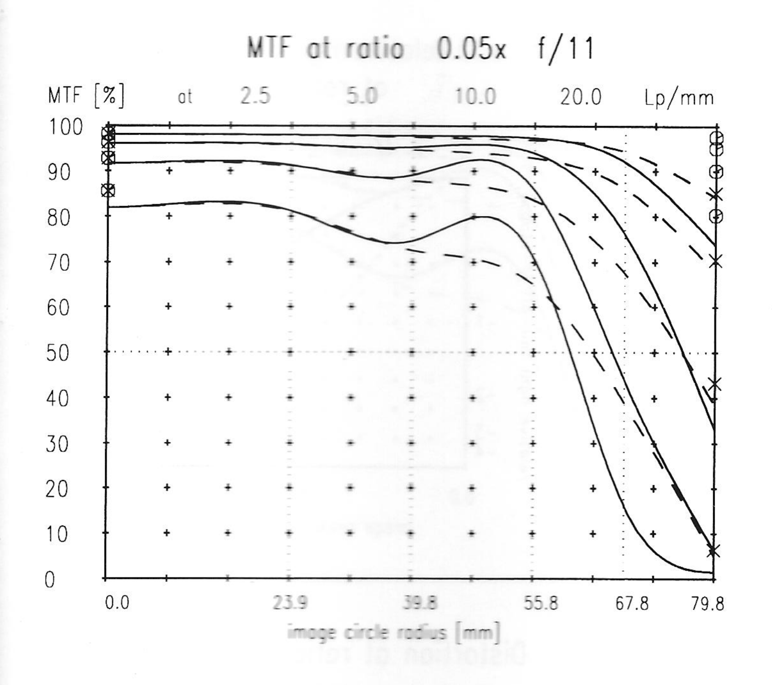


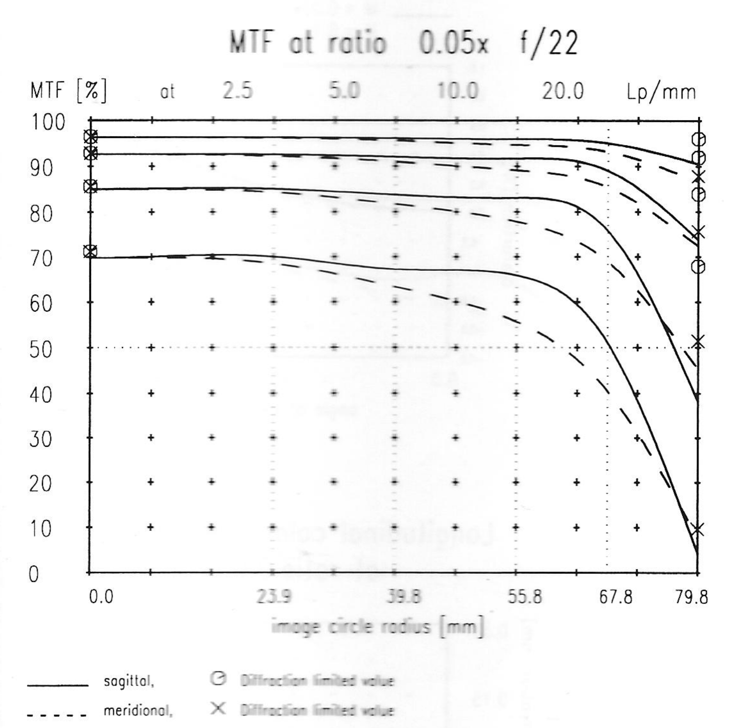
Lens section: 6 elements in 4 groups

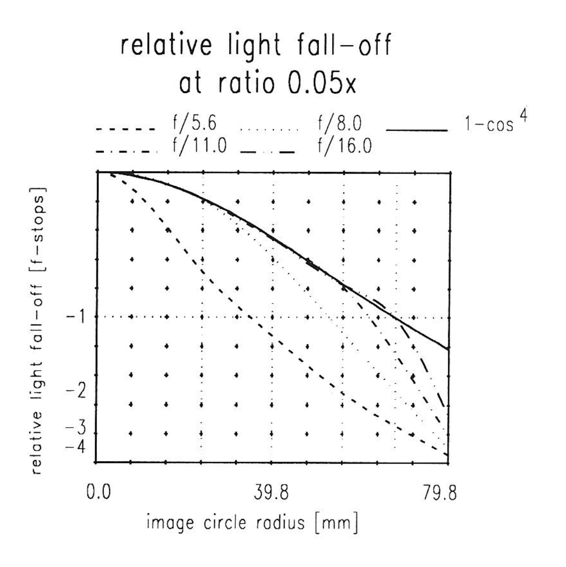
Working Aperture, Angle of View, Image Circle and Shift Limits

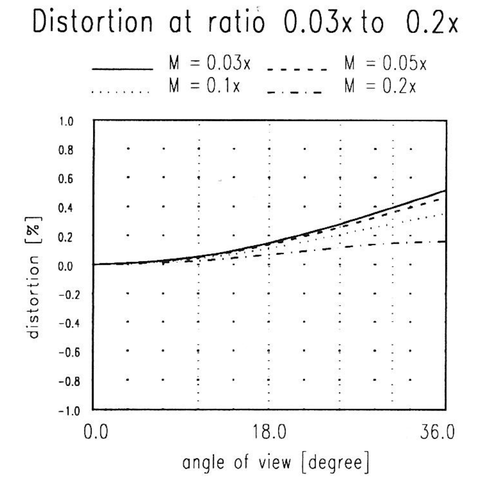
Apo-Sironar-N	Recomm. working aperture	Angle of view at f/22	Image circle ∅ at 1:∞ and f/22	Shift limits in mm (with horizontal format, magnification ratio 1:∞ and f/22): 6×7 cm	6×9 cm	6×12 cm	9×12 cm	4×5"	13×18 cm	5×7"	18×24 cm	8×10"
100 mm f/5.6	11 - 22	72°	151 mm	↑39 →36	↑33 →26	↑22 →13	↑8 →6					
135 mm f/5.6	16 - 22	72°	200 mm	↑66 →62	↑62 →52	↑54 →39	↑41 →34	↑32 →28				
150 mm f/5.6	16 - 22	72°	214 mm	↑73 →69	↑70 →59	↑63 →46	↑49 →42	↑41 →36	↑3 →2	↑4 →3		
180 mm f/5.6	22 - 32	72°	262 mm	↑98 →94	↑95 →84	↑90 →71	↑76 →67	↑68 →62	↑38 →30	↑39 →31		
210 mm f/5.6	22 - 32	72°	301 mm	↑119 →114	↑116 →104	↑111 →91	↑98 →88	↑90 →83	↑63 →52	↑64 →53	↑11 →8	
240 mm f/5.6	22 - 32	72°	350 mm			↑137 →116	↑124 →113	↑116 →108	↑92 →79	↑92 →79	↑46 →37	↑28 →23
300 mm f/5.6	32 - 45	72°	425 mm						↑134 →118	↑134 →119	↑93 →79	↑77 →67
360 mm f/6.8	32 - 45	64°	435 mm						↑139 →123	↑140 →124	↑99 →84	↑83 →72
480 mm f/8.4	32 - 45	56°	500 mm								↑136 →119	↑121 →108
480 mm f/9	32 - 45	56°	500 mm								↑136 →119	↑121 →108

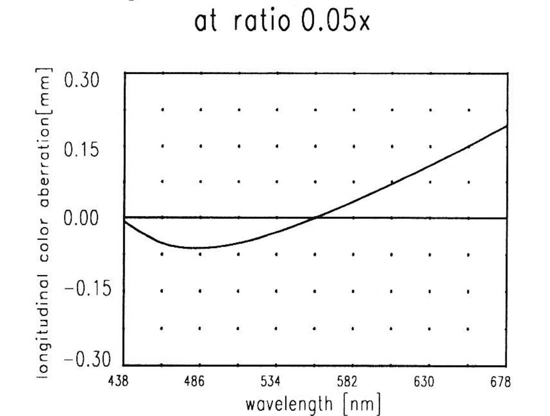
Apo-Sironar-N 100 mm f/5.6





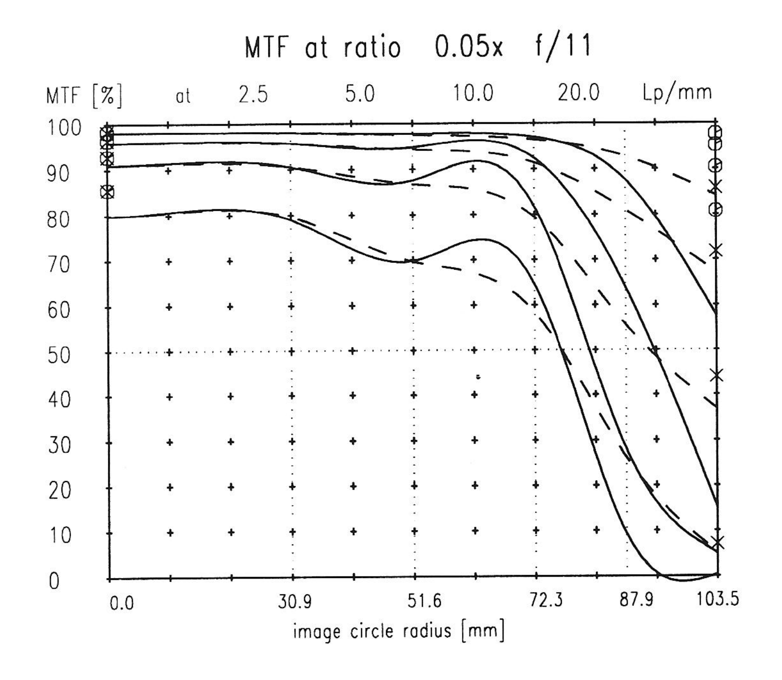


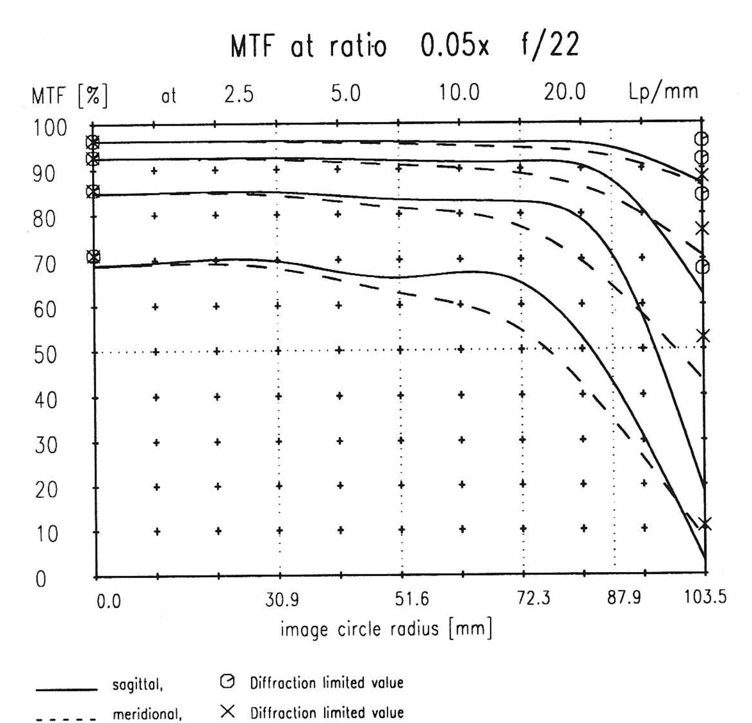


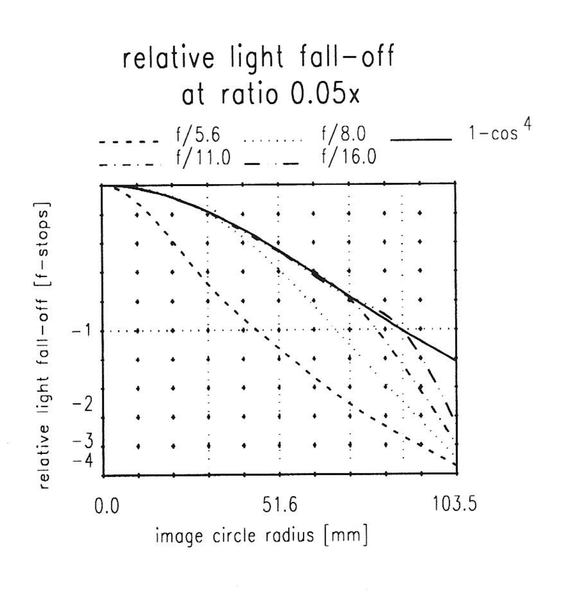


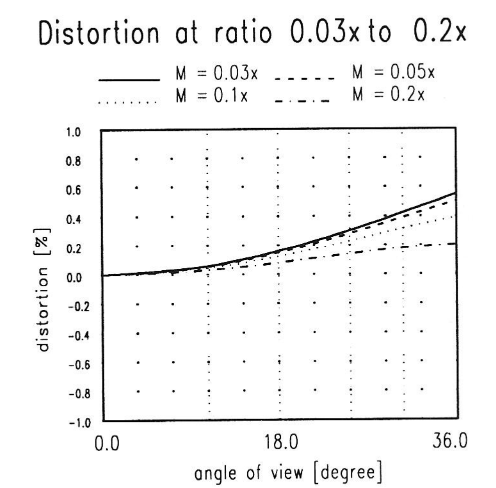
Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

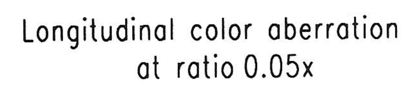
Apo-Sironar-N 135 mm f/5.6

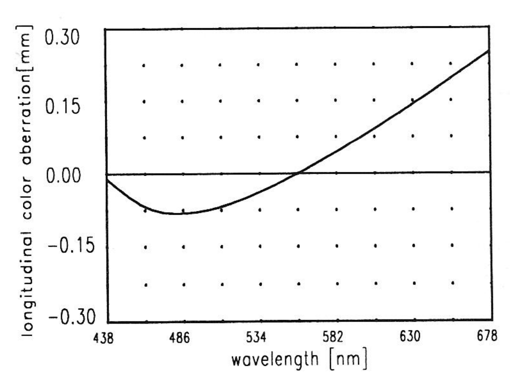






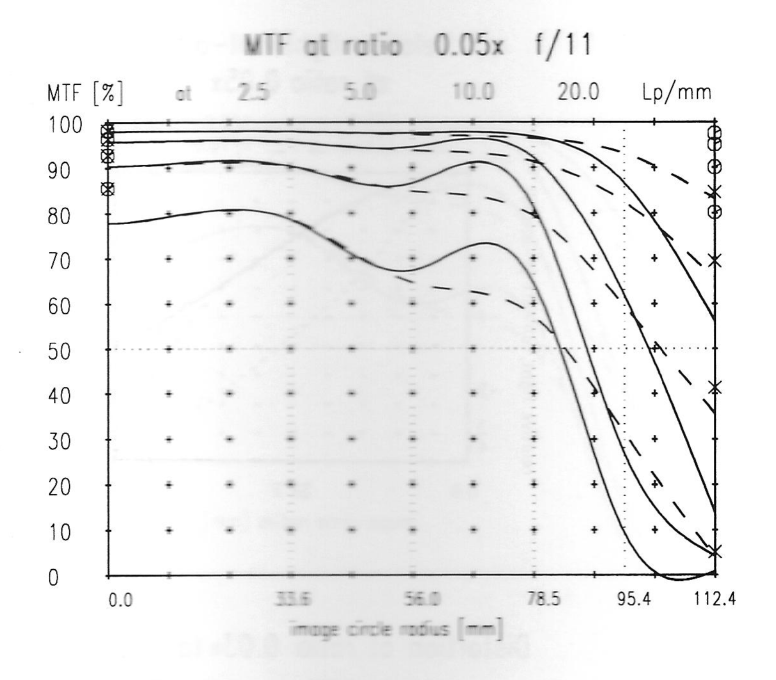


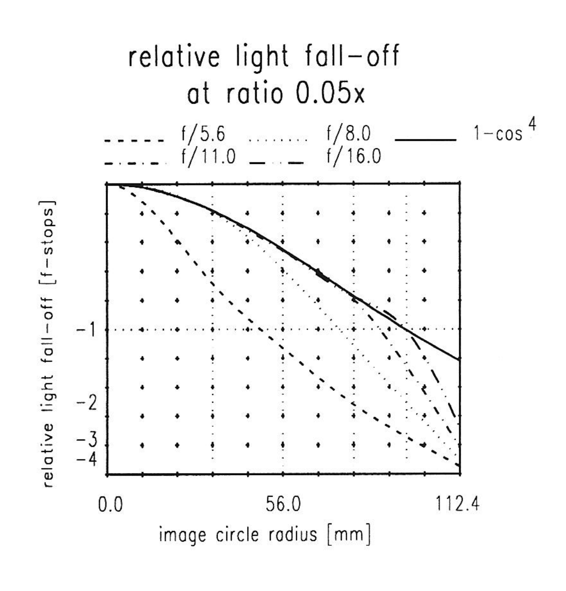


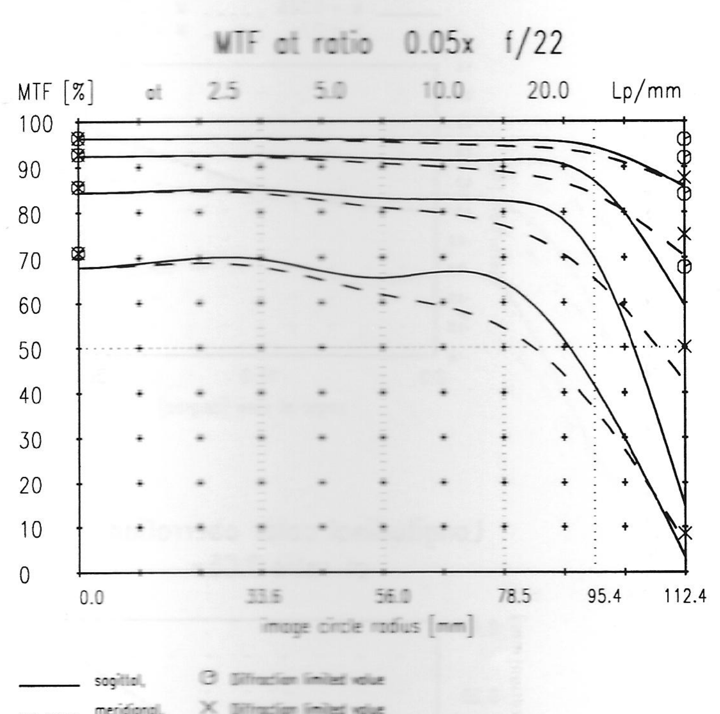


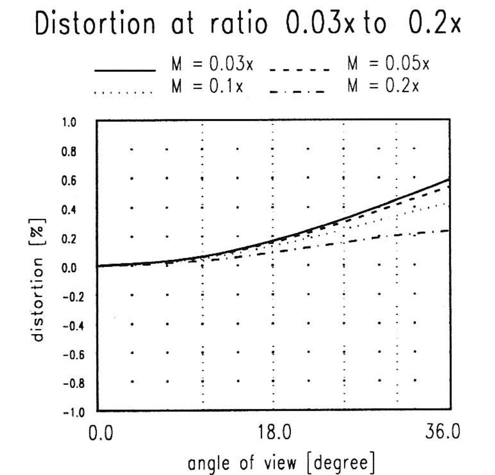
Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

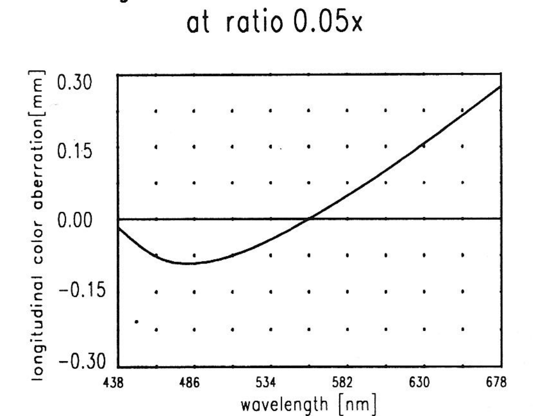
Apo-Sironar-N 150 mm f/5.6









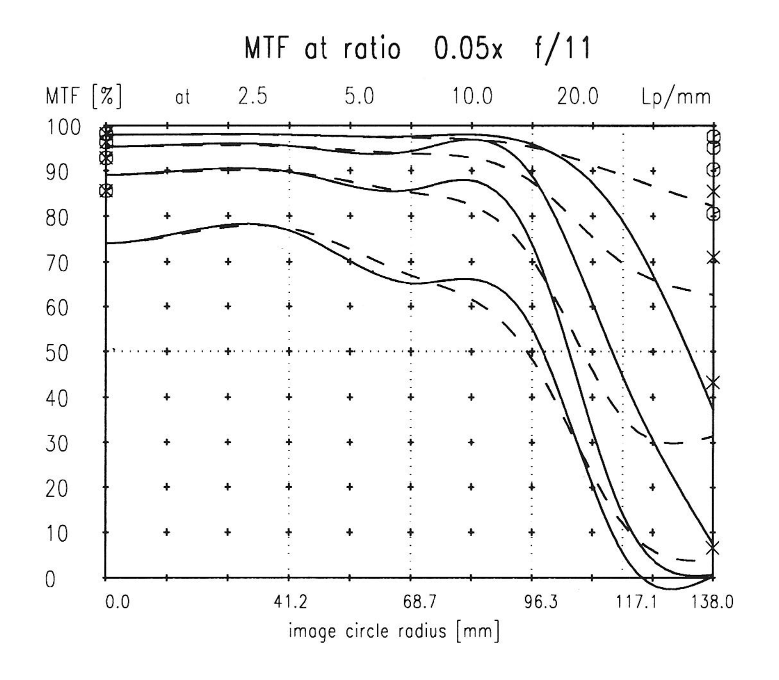


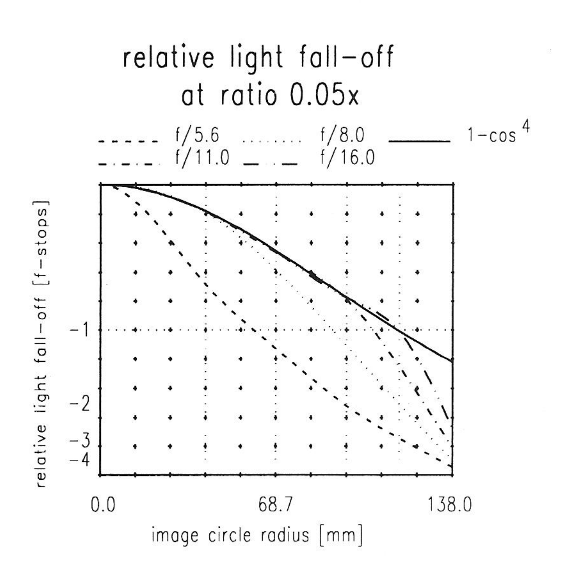
—— sagittal, ⊖ Diffraction limited value

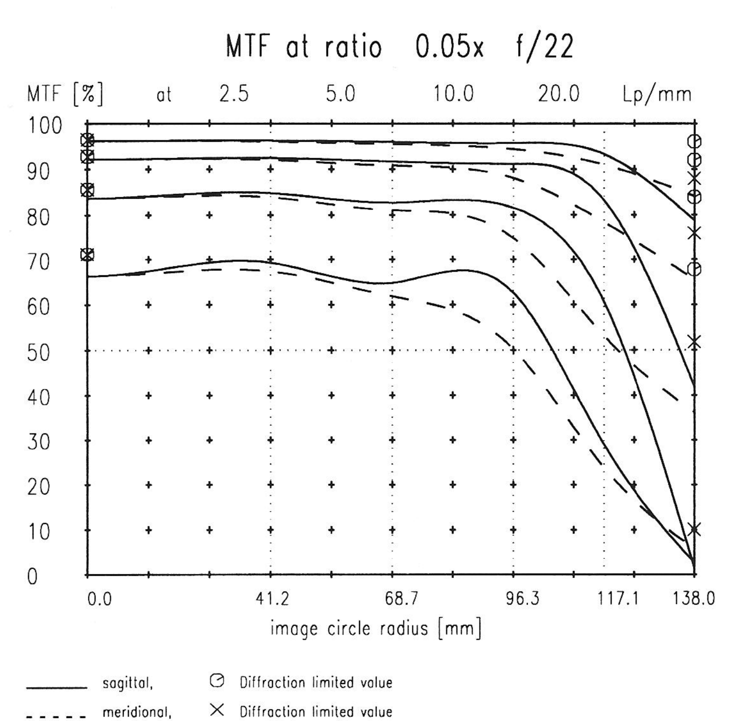
- - - - - meridional, ✕ Diffraction limited value

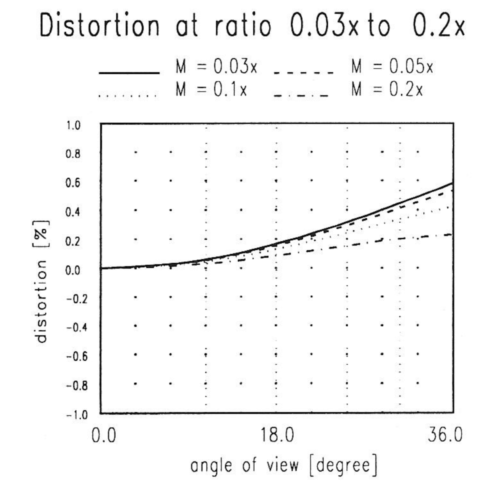
Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

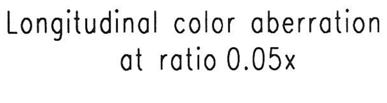
Apo-Sironar-N 180 mm f/5.6

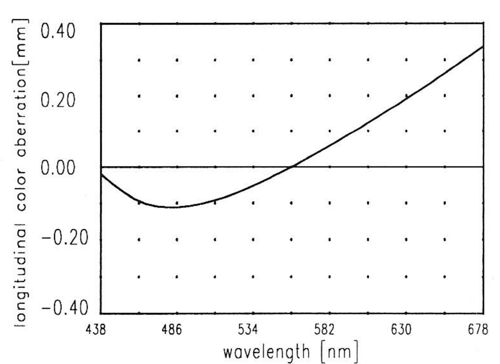






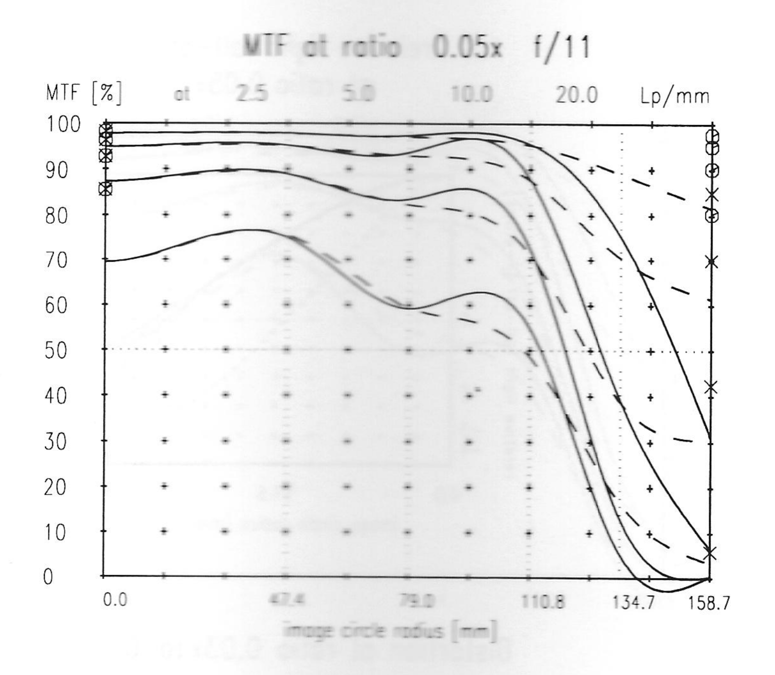


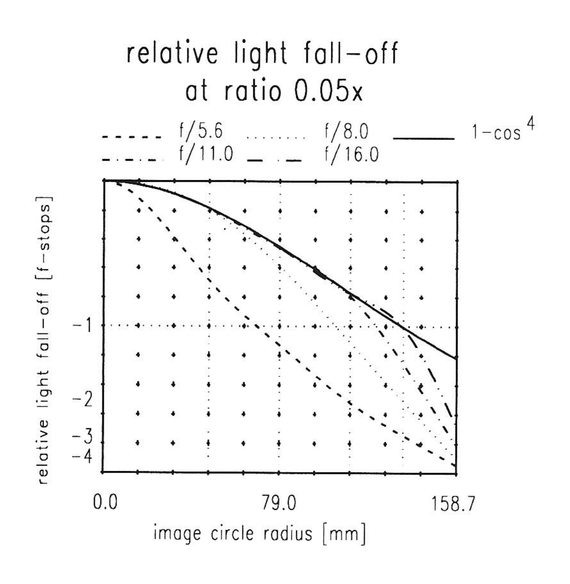


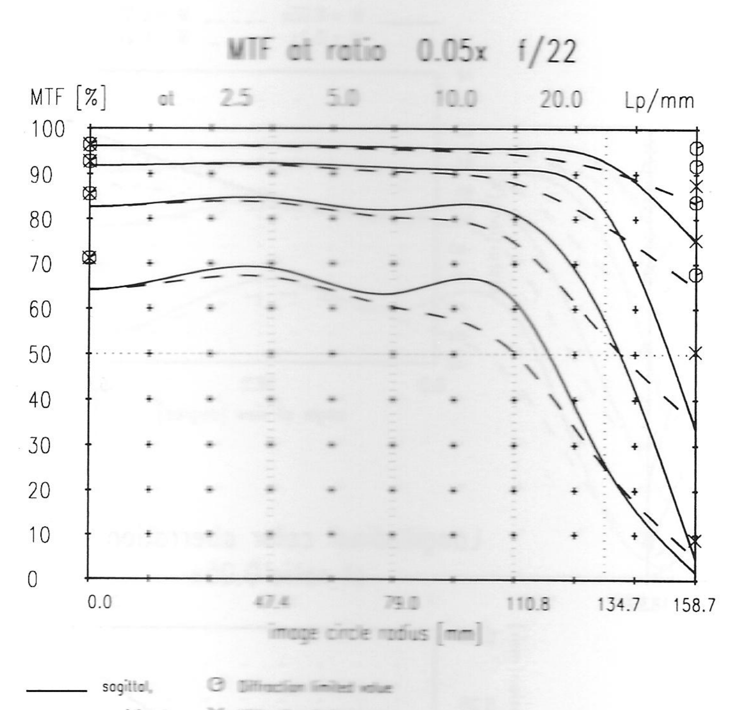


Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

Apo-Sironar-N 210 mm f/5.6

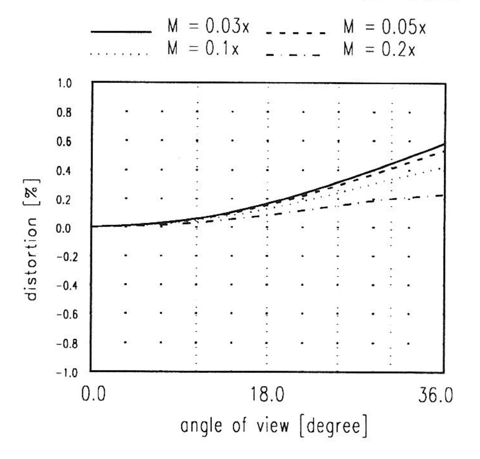








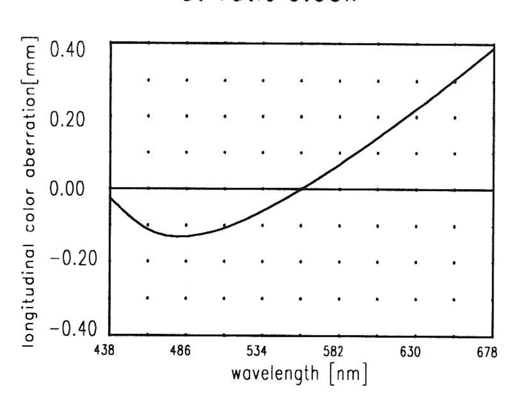
Distortion at ratio 0.03x to 0.2x



———— sagittal, ⊖ Diffraction limited value

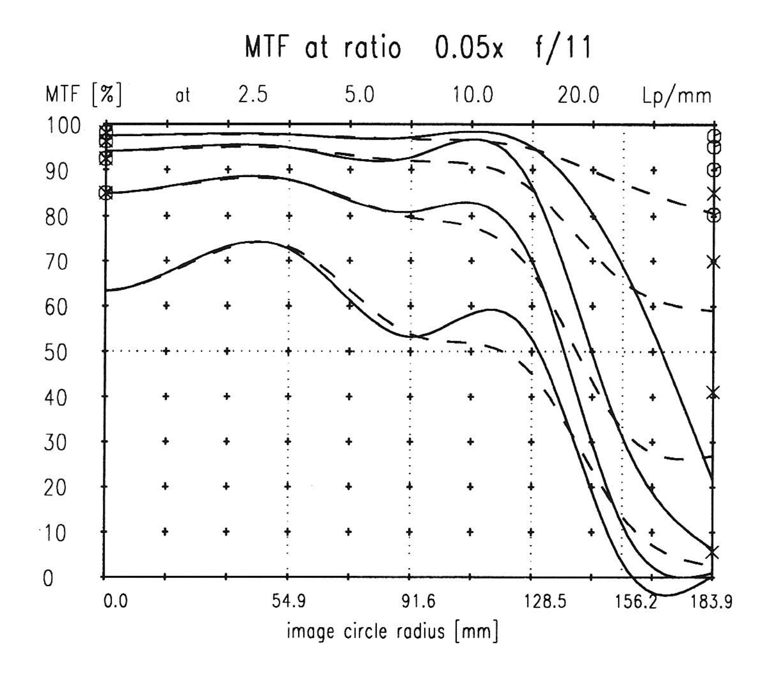
- - - - - meridional, × Diffraction limited value

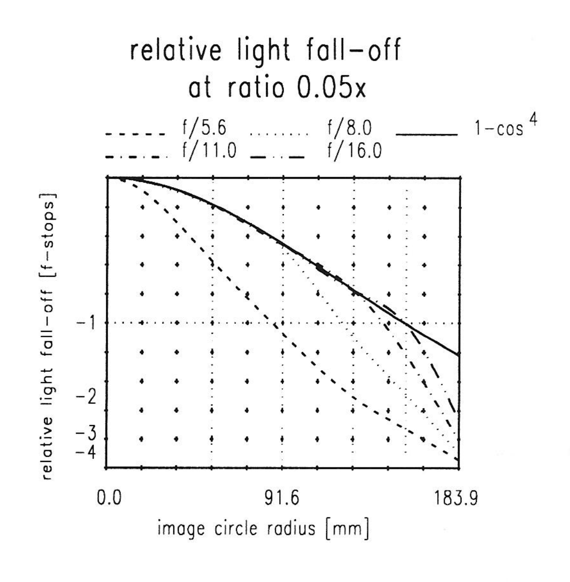
Longitudinal color aberration at ratio 0.05x

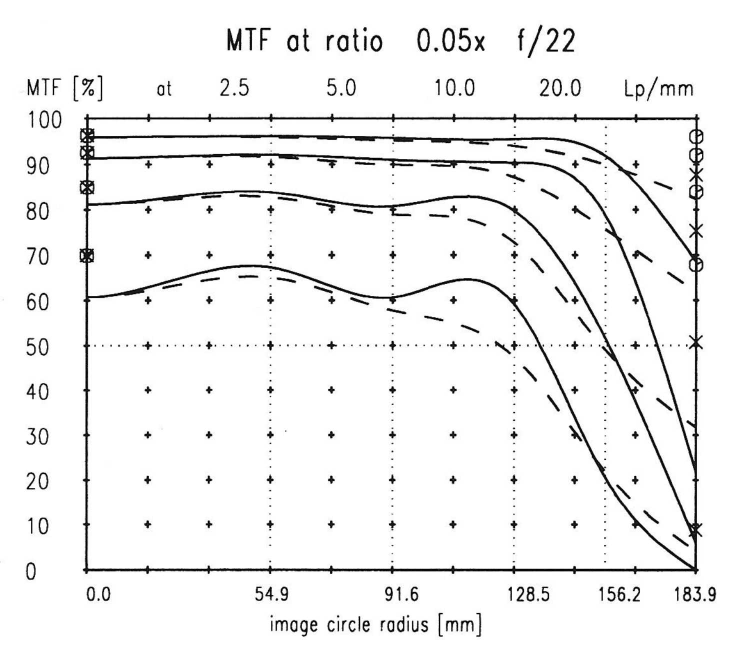


Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

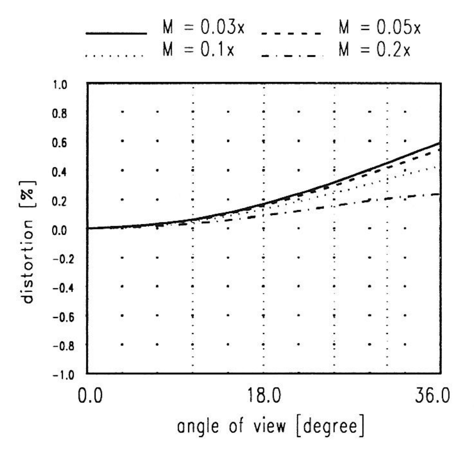
Apo-Sironar-N 240 mm f/5.6







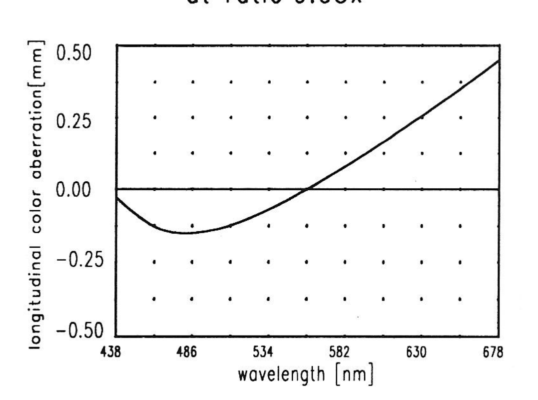




———— sagittal, Θ Diffraction limited value

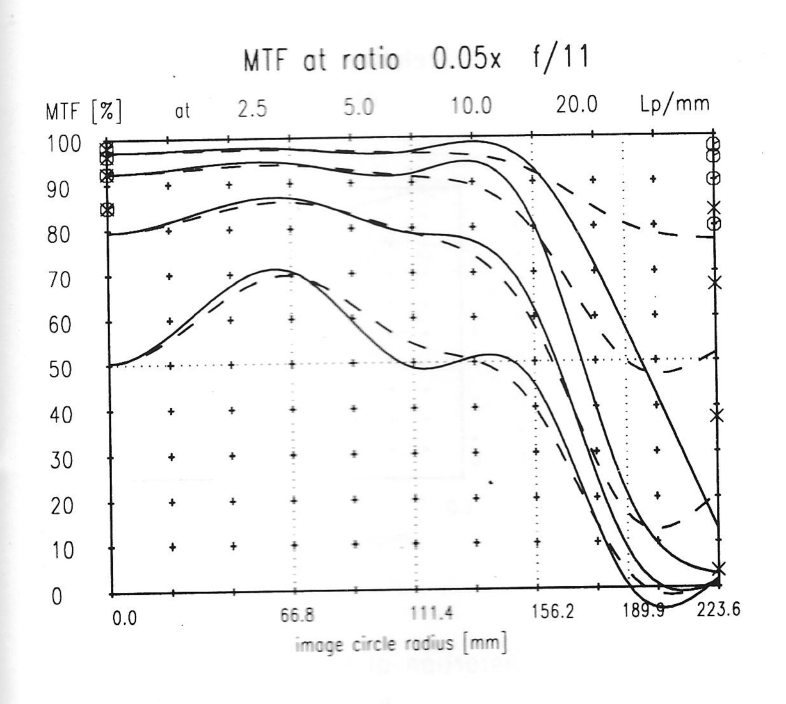
- - - - - meridional, × Diffraction limited value

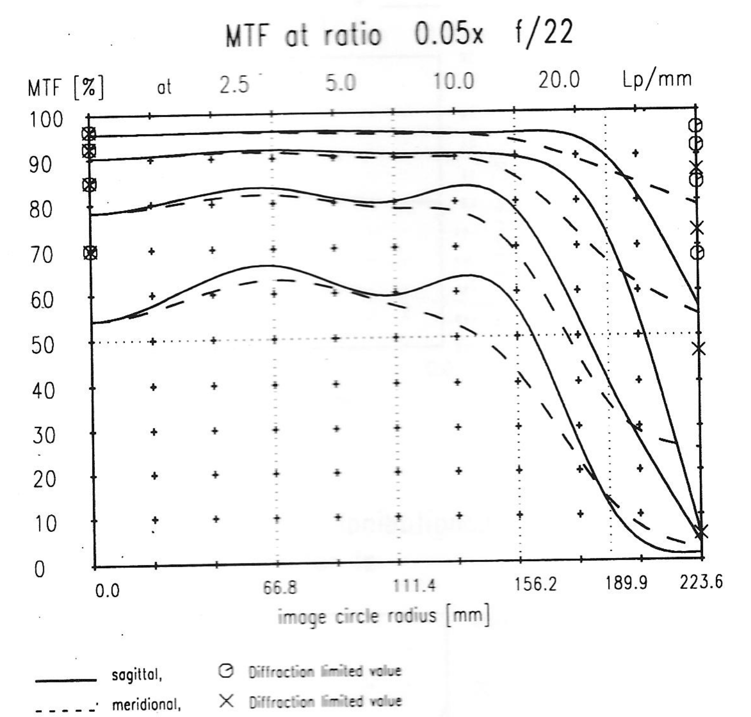
Longitudinal color aberration
at ratio 0.05x

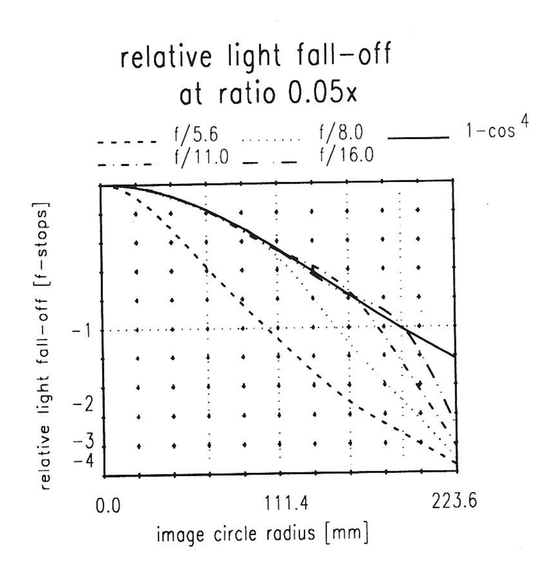


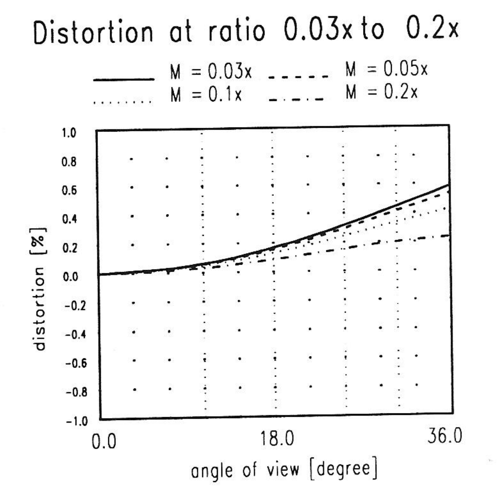
Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

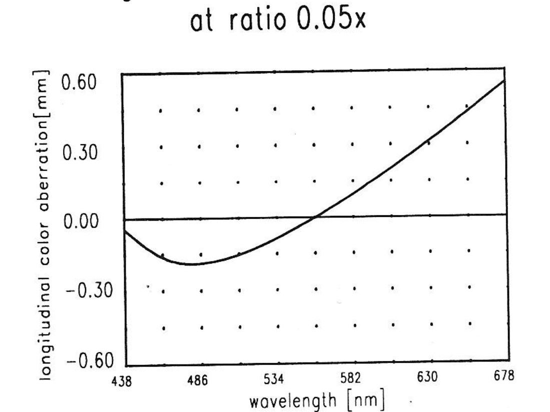
Apo-Sironar-N 300 mm f/5.6





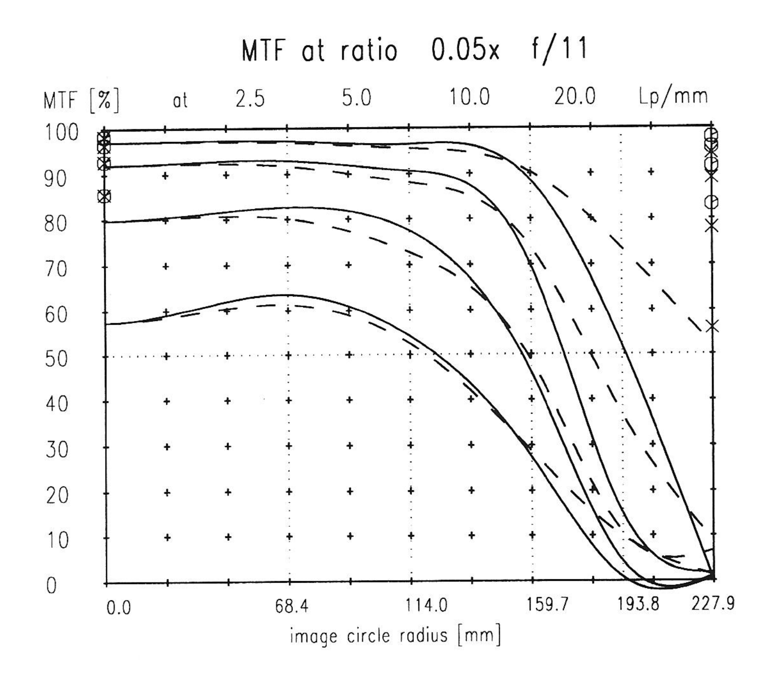


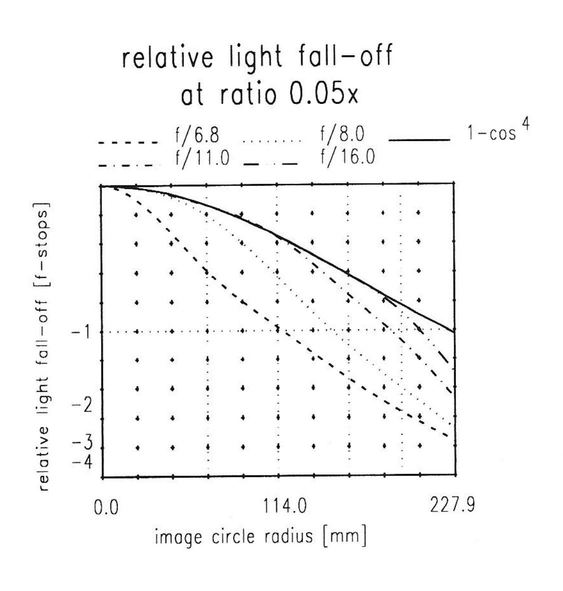


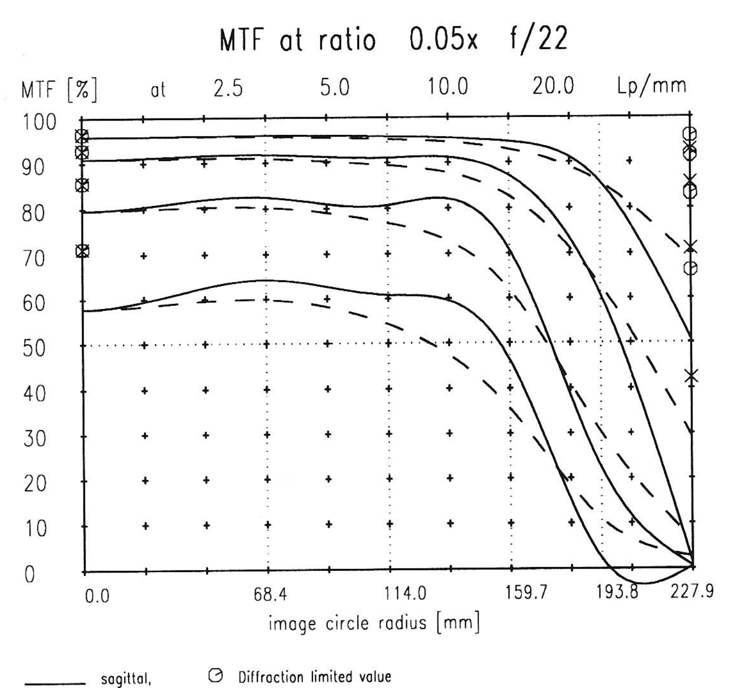


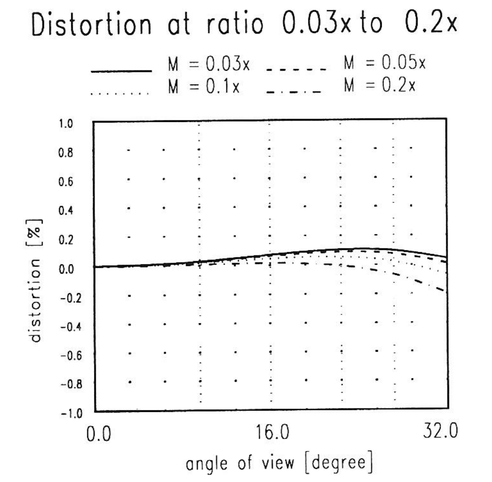
Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

Apo-Sironar-N 360 mm f/6.8



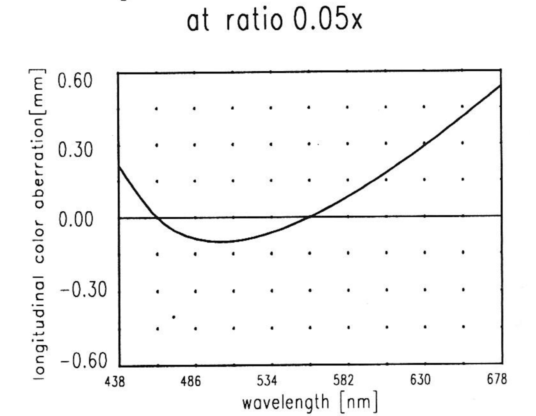






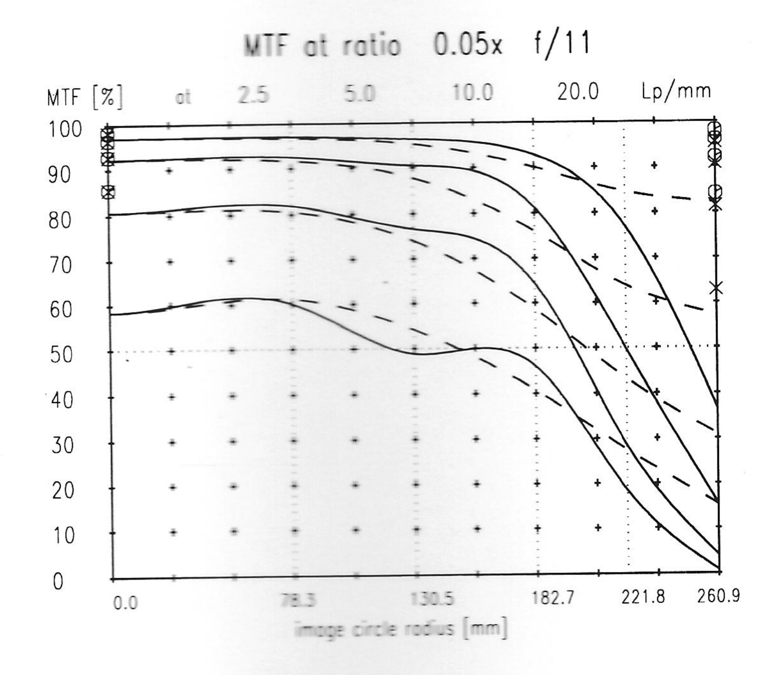
sagittal, meridional,

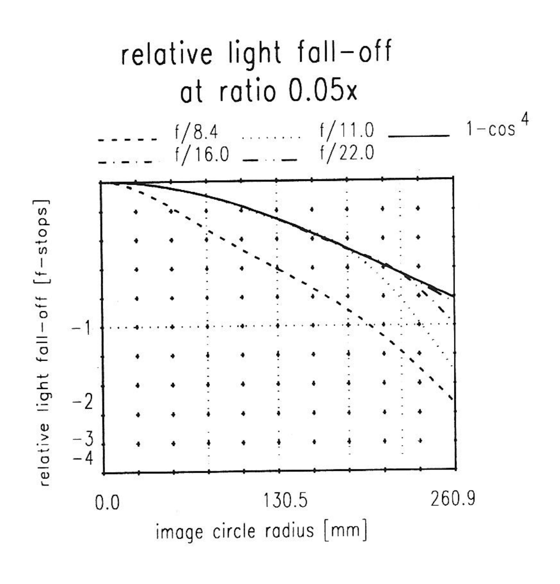
⊖ Diffraction limited value
× Diffraction limited value

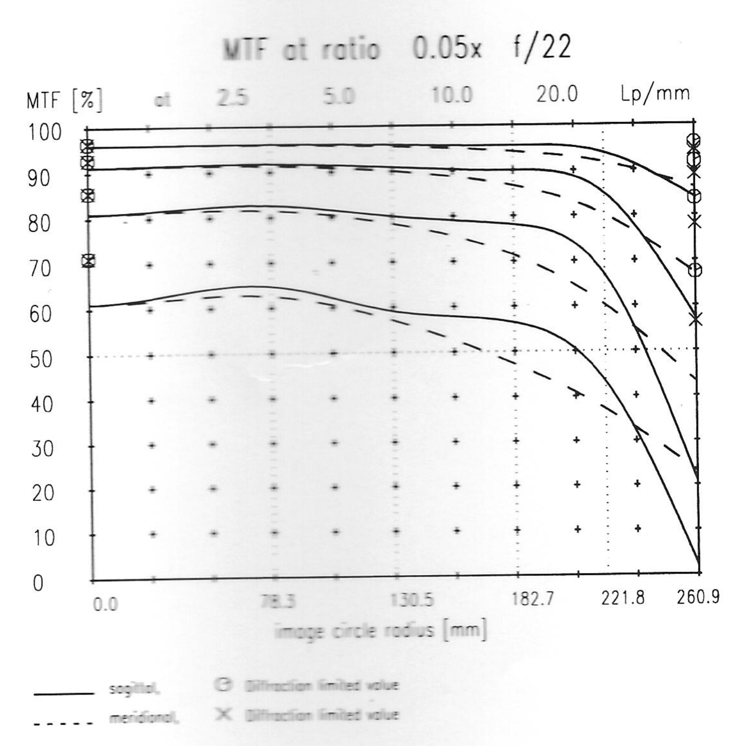


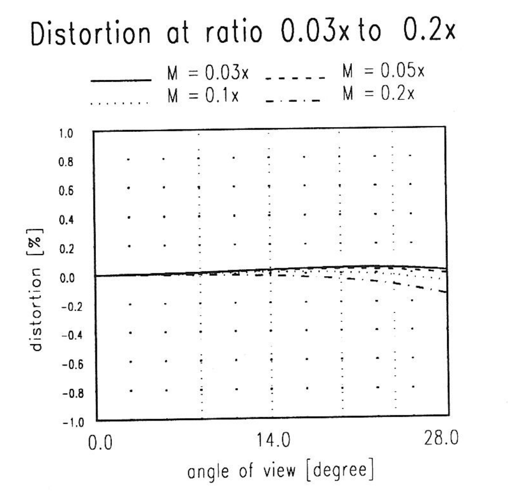
Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.

Apo-Sironar-N 480 mm f/8.4



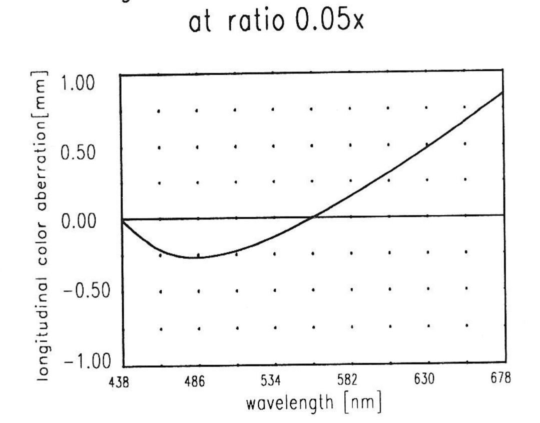






sagittal, ⊖ Diffraction limited value

meridional, ✕ Diffraction limited value



Named frequencies [line pairs/mm] in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.